

CLAIMS

[1] A sound detecting mechanism comprising a pair of electrodes forming a capacitor on a substrate in which one of the electrodes is a back electrode forming perforations therein corresponding to acoustic holes and the other of the electrodes is a diaphragm, characterized in that the diaphragm is mounted on the substrate while the back electrode is mounted in a position opposed to the diaphragm across a void to be supported by the substrate, the back electrode being formed by polycrystal silicon of 5 μ m to 20 μ m in thickness.

[2] A sound detecting mechanism as claimed in Claim 1 characterized in that the substrate comprises a support substrate having a monocrystal silicon substrate acting as the base thereof, and that a silicon substrate of (100) orientation is used as the monocrystal silicon substrate.

[3] A sound detecting mechanism as claimed in Claim 1 characterized in that impurity diffusion treatment is executed on the diaphragm.

[4] A sound detecting mechanism as claimed in Claim 1 characterized in that the substrate comprises a support substrate having a monocrystal silicon substrate acting as the base thereof, and that the support substrate consists of an SOI wafer.

[5] A sound detecting mechanism as claimed in Claim 4 characterized in that the SOI wafer has an active layer used as the diaphragm.

[6] A sound detecting mechanism as claimed in Claim 4

characterized in that the diaphragm is formed of monocrystal silicon of 0.5 μ m to 5 μ m in thickness.

5 [7] A sound detecting mechanism as claimed in Claim 1
characterized in that the substrate consists of an SOI structure wafer including a silicon oxide film or a silicon nitride film formed on a monocrystal silicon substrate and a polycrystal silicon film formed on the silicon oxide film or the silicon nitride film.

10 [8] A sound detecting mechanism as claimed in Claim 7
characterized in that the polycrystal silicon film formed on the SOI structure wafer is used as the diaphragm.

15 [9] A sound detecting mechanism as claimed in Claim 7
characterized in that the diaphragm is formed of polycrystal silicon of 0.5 μ m to 5 μ m in thickness.